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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/404,597	09/24/1999	JOHN RAUSER	07744.0009	8566

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EXAMINER

WASSUM, LUKE S

ART UNIT	PAPER NUMBER
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2177

DATE MAILED: 12/13/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/404,597

Applicant(s)

RAUSER ET AL.

Examiner

Luke S. Wassum

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 13-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 16-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 September 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4. 6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of the claims of Group I (1-12 and 16-27) in Paper No. 6 is acknowledged.

Information Disclosure Statement

2. An Information Disclosure Statement, filed 6 June 2000, has been received, entered into the record, and considered. See attached form PTO-1449.
3. The information disclosure statement filed 6 June 2002 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent or publication listed that is not in the English language. As such, Japanese Patent Publications 11-328266, 11-338879, 2000-48046 and 2000-57090 have been placed in the application file, but the information referred to therein has not been considered.

Characterization of the Invention

4. The invention is drawn towards a method of providing recommendations to a user, whereby in addition to information indicative of the user's interests, additional filtering criteria is applied in order to prevent the recommendation of items that, while strictly meeting the interest criteria of the user, are not appropriate for recommendation. Examples of reasons for such items being inappropriate are, for instance, items that are out of stock or otherwise currently unavailable; items

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which are out of season; or items which the age or other characteristics of the user renders inappropriate.

Drawings

5. The drawings have been objected to by the Draftsperson under 37 C.F.R. § 1.84 or 1.152 for the reasons shown on the attached form PTO-948. Corrected drawings must be submitted in accordance to the instructions on the "Attachment for PTO-948 (Rev. 03/01, or earlier)".

Specification

6. The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code. Applicants are required to delete the embedded hyperlink and/or other form of browser-executable code.

Alternately, the Applicants may insert '<' and '>' before and after the URL.

See MPEP § 608.01.

Claim Numbering

7. The Applicant's are reminded that the originally submitted claims omitted a claim 6, and the original claims 7-28 have been renumbered 6-27.

EXAMINER'S AMENDMENT

8. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312.

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To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

- A. Please renumber claim numbers 7-28 to claim numbers 6-27, respectively.
- B. In renumbered claims 17-27, please replace "17" with --16--.

Claim Objections

9. The Applicants are advised that their use of the 'filtering' term is contrary to its commonly accepted use within the database art.

As commonly used in the art, a filter is used to 'filter' unwanted entries. Entries that are desired are said to have 'passed' or 'satisfied' the filtering criteria. Entries that are discarded are said to have been 'filtered'.

This is contrary to the claim language in, for instance, claims 4-8 and 11 ("selecting the ones of the items that have been restricted"), and also claim 17 ("append the filtered ones of the items to a recommendation list").

Appropriate correction is required.

10. Claim 1 is objected to because of the following informalities:

In the second line, the word 'executed' should be 'executing'. Appropriate correction is required.

11. Claim 7 is objected to because of the following informalities:

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In the second line, the phrase 'ones of the items item' should be 'ones of the items'.

Appropriate correction is required.

12. Claim 8 is objected to because of the following informalities:

In the first line, the phrase 'that restricted' should be 'that are restricted'. Appropriate correction is required.

Claim Rejections - 35 USC § 112

13. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

14. Claims 1-12 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

15. Regarding claim 1, the appending step is rendered indefinite, because there is no indication as to what the selected ones are being appended.

Dependent claims 2-12 are rejected for fully incorporating the deficiencies of claim 1 by dependency.

16. Regarding claims 1 and 17, the limitation "predicted values" is indefinite, since the claim fails to specify what is being predicted.

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Dependent claims 2-12 are rejected for fully incorporating the deficiencies of claim 1 by dependency.

Claim Rejections - 35 USC § 102

17. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

18. Claims 1 and 3-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Hey (U.S. Patent 4,996,642).

19. Regarding claim 1, Hey teaches a method for providing a recommendation list from a plurality of items, comprising the steps of:

- a) specifying a constraint filter to select ones of the items satisfying a constraint (see col. 2, lines 27-36; see also col. 7, lines 21-32);
- b) selecting the ones of the plurality of items that satisfy the constraint filter (see col. 3, lines 24-32; see also col. 7, lines 21-57);
- c) computing predicted values based on a recommendation filter for the selected ones of the items (see col. 4, lines 3-28); and
- d) appending the selected ones of the items meeting predetermined criteria (see col. 4, lines 3-28).

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20. Regarding claims 3 and 10, Hey additionally teaches a method for providing a recommendation list wherein a predetermined number of items are appended to the list, after which the list is truncated (see col. 7, lines 44-45; see also step 132 in Figure 6).

21. Regarding claims 4-8, Hey additionally teaches a method for providing a recommendation list wherein selecting the ones of the items that are restricted further includes applying a constraint containing free variables or bound expressions, comprising a boolean filter, or signifies an equality or membership in a category (see disclosure that the constraint comprises whether or not the item is currently available in inventory by querying a database, col. 3, lines 24-40; see also col. 7, lines 21-57).

22. Regarding claim 9, Hey additionally teaches a method for providing a recommendation list wherein computing predicted value further includes evaluating the selected ones of the items with collaborative filtering (see disclosure that the recommendation is based on "the subjective reactions of the group to make accurate recommendations for any person within the group", col. 2, lines 15-20).

23. Regarding claims 11 and 12, Hey additionally teaches a method for providing a recommendation list wherein selecting the ones of the items that are restricted by the constraint filter further includes:

- a) obtaining constraint data from a user (see col. 3, lines 33-40); and
- b) adding the data to the constraint filter and storing the filter in memory (see col. 3, lines 33-40).

Claim Rejections - 35 USC § 103

24. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

25. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

26. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Hey** (U.S. Patent 4,996,642) as applied to claims 1 and 3-12 above, and further in view of **Herz** (U.S. Patent 6,460,036).

27. Regarding claim 2, **Hey** teaches a method for providing a recommendation list from a plurality of items substantially as claimed.

Hey does not explicitly teach a method for providing a recommendation list wherein items are appended to the recommendation list when the predicted value exceeds a predetermined number.

Herz, however, explicitly teach a method for providing a recommendation list wherein items are appended to the recommendation list when the predicted value exceeds a predetermined number (see step 13B-03 in Figure 13B; see also col. 25, lines 17-65; see also col. 57, line 6 through col. 58, line 23).

It would have been obvious to one of ordinary skill in the art at the time of the invention to append items to the recommendation list when the predicted value exceeds a predetermined number, since this would allow a user to access information of relevance and interest without expending an excessive amount of time and energy searching for the information (see col. 1, lines 45-50), and also because it would efficiently provide only desired information to the user and conserve valuable storage space by only storing those target objects which are relevant to the user's interests (see col. 8, lines 6-9).

28. Claims 16-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hey** (U.S. Patent 4,996,642) in view of **Jarke et al.** ("Query Optimization in Database Systems").

29. Regarding claims 16-18, **Hey** teaches an apparatus for providing a recommendation list from a plurality of items substantially as claimed, comprising:

a) a processing component configured to process instructions for:

- i) applying a constraint filter to the ones of the items (see col. 3, lines 24-32; see also col. 7, lines 21-57);
 - ii) applying a recommendation filter to the ones of the items by computing predicted values for each item (see col. 4, lines 3-28); and
- b) a recommender component configured to append the filtered ones of the items to a recommendation list based on the constraint filter and a recommendation filter (see col. 4, lines 3-28).

Hey does not explicitly teach an apparatus for providing a recommendation list comprising the step of determining an order of the filters to apply to the plurality of items based on the cost of the filters, wherein the constraint filter is applied first when the cost is lower, and applying the recommendation filter first when the cost is lower.

Jarke et al., however, teaches an apparatus for providing a recommendation list comprising the step of determining an order of the filters to apply to the plurality of items based on the cost of the filters, wherein the constraint filter is applied first when the cost is lower, and applying the recommendation filter first when the cost is lower (see extensive discussion of the generation of all reasonable logical access plans for evaluating the query, and selecting the cheapest access plan for execution, section 5, beginning on page 134; see in particular the description of the dynamic query optimization procedure, page 137 col. 1, last paragraph, and col. 2, first paragraph).

It would have been obvious to one of ordinary skill in the art at the time of the invention to choose an access plan to optimize the query execution, since this would allow a system to maximize

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the output for a given number of resources, minimize the resource usage for a given output, and minimize the response time for a given query language and mix of query types in a given system environment (see section 1.2 Optimization Objectives, beginning on page 113).

30. Regarding claim 25, Hey additionally teaches a method for providing a recommendation list wherein a predetermined number of items are appended to the list, after which the list is truncated (see col. 7, lines 44-45; see also step 132 in Figure 6).

31. Regarding claims 19-23, Hey additionally teaches a method for providing a recommendation list wherein selecting the ones of the items that are restricted further includes applying a constraint containing free variables or bound expressions, comprising a boolean filter, or signifies an equality or membership in a category (see disclosure that the constraint comprises whether or not the item is currently available in inventory by querying a database, col. 3, lines 24-40; see also col. 7, lines 21-57).

32. Regarding claim 24, Hey additionally teaches a method for providing a recommendation list wherein computing predicted value further includes evaluating the selected ones of the items with collaborative filtering (see disclosure that the recommendation is based on "the subjective reactions of the group to make accurate recommendations for any person within the group", col. 2, lines 15-20).

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33. Regarding claims 26 and 27, **Hey** additionally teaches a method for providing a recommendation list wherein selecting the ones of the items that are restricted by the constraint filter further includes:

- a) obtaining constraint data from a user (see col. 3, lines 33-40); and
- b) adding the data to the constraint filter and storing the filter in memory (see col. 3, lines 33-40).

Conclusion

34. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hosken (U.S. Patent 6,438,579) teaches a content and collaborative filtering system for recommending entertainment oriented content items, such as music and video, and other media content items to a user based on similarity in profile between the user and other users and between the content indexed in the user's profile and other content in the database.

Glance et al. (U.S. Patent 6,415,368) teaches a system for caching documents, and prioritizing said documents according to the relative value of the documents based on a recommender system.

Bieganski et al. (U.S. Patent 6,412,012) teaches a recommendation process based on preference data and compatibility rules.

Lohman et al. (U.S. Patent 6,356,889) teaches a method for determining optimal database materializations using a query optimizer.

Bieganski et al. (U.S. Patent 6,334,127) teaches a serendipity-weighted recommendation process.

Bieganski et al. (U.S. Patent 6,321,221) teaches a serendipity-weighted recommendation process.

Glance et al. (U.S. Patent 6,321,179) teaches a method of providing predicted user ratings based on a collaborative filter and a user-set threshold.

Jacobi et al. (U.S. Patent 6,317,722) teaches a service that recommends products or other items to a user based on a set of items known to be of interest to the user.

Suzuki (U.S. Patent 6,313,745) teaches a system for recommending other products to a customer based on the items that the customer takes into a fitting room.

Linden et al. (U.S. Patent 6,266,649) teaches a recommendation service for recommending items to individual users based on a set of items that are known to be of interest to the user.

Jacobi et al. (U.S. Patent 6,064,980) teaches a service that recommends products or other items to a user based on a set of items known to be of interest to the user.

Chislenko et al. (U.S. Patent 6,041,311) teaches a method of recommending items to a user using automated collaborative filtering.

Breese et al. (U.S. Patent 6,006,218) teaches an information retrieval method involving the generation of estimates regarding the probability that items in search results are already known to the user, and the use of such knowledge to adjust the ranking of the search results.

Robinson (U.S. Patent 5,918,014) teaches an automated collaborative filtering system for World Wide Web advertising.

Robinson (U.S. Patent 5,884,282) teaches an automated collaborative filtering system for recommending at least one item to a first user based on similarity in preference of the user as compared with other users.

Klein et al. (U.S. Patent 5,872,850) teaches a system for enabling an information marketplace including a recommendation system.

Robinson (U.S. Patent 5,790,426) teaches an automated collaborative filtering system for recommending at least one item to a first user based on similarity in preference of the user as compared with other users.

Whiteis (U.S. Patent 5,749,081) teaches a system for assisting a consumer in selecting items from a master list of available items by recommending items having a high probability of appeal to the customer.

Schneider (U.S. Patent 5,668,987) teaches a system for improving the execution speed of database queries by optimizing execution of nested queries or subqueries.

Tsuchida et al. (U.S. Patent 5,091,852) teaches a method of processing a database query by selecting an optimal internal processing procedure.

Hey (U.S. Patent 4,870,579) teaches a system for predicting the reactions of a selected user to items sampled by one or more users in the group but not sampled by the user.

PRNewswire ("Net Perceptions and Shop At Home to Provide Personalized Product Recommendations for Shop At Home Customers") is a product announcement for the implementation of the Net Perceptions for Call Centers software for Shop At Home.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luke S. Wassum whose telephone number is 703-305-5706. The examiner can normally be reached on Monday-Friday 8:30-5:30, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene can be reached on 703-305-9790. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.


In addition, INFORMAL or DRAFT communications may be faxed directly to the examiner at 703-746-5658.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.



Luke S. Wassum
Art Unit 2177

lsw
December 10, 2002



JEAN R. HOMERE
PRIMARY EXAMINER